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Optical properties of doped KDP Crystals -- M. YAN, P. SANTIAGO, M. STAGGS, J. De YOREO, L. CARMAN, N. ZAITSEVA Lawrence Livermore National Laboratory, Livermore, CA 94551, -- Optical absorption and time resolved photoluminescence has been used to study the electronic defect structure in the rapid grown KH_2PO_4 (KDP) crystal. Optical properties of different impurity (Fe, Al and Cr) doped crystals are compared to understand the nature of defect states. Micro-second decay of photoluminescence suggest the electronic trapping state associated with the impurity defects. In addition, the optical properties of solution for growing crystals were measured and compared with crystals to understood the formation of impurity associated defect centers. *Work at LLNL performed under the auspices of the USDOE under contract number W-7405-ENG-48.

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